

**REMARKS**

The following remarks are in response to the Office Action mailed on April 6, 2006. Prior to entrance of this Amendment, claims 1-20 were pending in this Application. Upon entrance of this Amendment, claims 1-20 will remain pending in this Application.

Claims 1-20 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Claims 5 and 18 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite but would be allowable if rewritten to overcome the rejection and to include all of the limitations of the rejected base claim and any intervening claims. Claim 7 also stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claims 1, 2, 7-12 and 14-16 stand rejected as being anticipated under 35 U.S.C. § 102(b) by U.S. Patent No. 4,730,625 (hereinafter "Fraser"). Claims 1, 4 and 17 stand rejected as being anticipated under 35 U.S.C. § 102(b) by U.S. Patent No. 5,012,819 (hereinafter "Marras"). Claims 17 and 19 stand rejected as being anticipated under 35 U.S.C. § 102(b) by U.S. Patent No. 5,826,578 (hereinafter "Curchod"). Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Marras in view of Curchod. Finally, claims 3, 13 and 20 were objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form to include all of the limitations of the rejected base claim and any intervening claims.

Response is hereby made to each of the above-noted rejections and objections.

Indication of Allowable Subject Matter in Claims 3, 5, 13, 18 and 20.

As a preliminary matter, Applicant wants to thank the Examining Attorney for the indication of allowable subject matter in claims 3, 5, 13, 18 and 20.

Rejection of Claims 1-20 under 35 U.S.C. § 101.

Applicant has herein amended claims 1-20 to recite that the elongated member, and/or sensor where applicable, are "adapted to be" disposed in the claimed fashion. Applicant believes that each of these claims as amended is now directed to statutory subject matter and respectfully requests that the rejections of claims 1-20 under 35 U.S.C. § 101 be withdrawn.

Rejection of Claims 5, 7 and 18 under 35 U.S.C. § 112, Second Paragraph.

Applicant has herein amended claims 5 and 18 to remove the reference to "type" from each of these claims. Likewise, Applicant has herein amended claim 7 to remove the reference to "shaped" from the claim. Applicant believes that each of these claims as amended now comply with the requirements of 35 U.S.C. § 112, second paragraph, and therefore respectfully requests that the rejection of these claims under that section be withdrawn.

Rejection of Independent Claims 1 and 15 under 35 U.S.C. § 102(b) by Fraser.

Independent claims 1 and 15 as currently amended each recite that the claimed invention include a second

sensor that is "mounted to the elongated member and disposed to monitor lateral motion of the patient's spine in the frontal plane."

Fraser teaches a device which includes a T-shirt 3 worn by the patient. The T-shirt includes a first pocket 7 which runs vertically adjacent to the patient's spine and a second pocket 5 which runs perpendicular to the patient's spine. An elongated member 11 with two strain gage sensors 13 mounted in spaced apart fashion to the elongated member is inserted in either pocket 5 or pocket 7 to monitor motion of the patient's spine.

In the Office Action, it is stated that "the second sensor is capable of monitoring lateral motion of the patient's spine in the frontal plane." (see Office Action, page 4, ¶ 8). This is not correct. With elongated member 11 inserted into pocket 5 of T-shirt 3, sensors 13 only monitor protraction or retraction of the patient's shoulders, not lateral motion of the patient's spine in the frontal plane. Similarly, with elongated member 11 inserted into pocket 7 of T-shirt 3, sensors 13 only monitor flexion and extension motion of the patient's spine in the midsagittal plane, not lateral motion of the patient's spine in the frontal plane. The device of Fraser simply does not monitor lateral motion of the patient's spine in the frontal plane. Fraser therefore does not anticipate amended claims 1 and 15.

**Rejection of Independent Claims 1 and 17 under 35 U.S.C. § 102(b) by Marras.**

Independent claim 1 as amended herein recites that the claimed invention include "an elongated member adapted to be disposed longitudinally adjacent to the patient's spine and further adapted to be flexible in the midsagittal plane and substantially inflexible in the frontal plane."

Marras teaches a device having an elongated member 12 adapted to be disposed longitudinally adjacent to the patient's spine. Member 12 is comprised of a plurality of T-shaped elements 14 separated by tubular spacers 22. As a result of this construction, elongated member 12 of Marras is flexible in all planes, including in the frontal plane. In fact, Marras expressly states that elongated member 12 is flexible in all planes at column 3, lines 15-22 which reads as follows:

A tubular spacer 22 is disposed between each adjacent pair of elements 14 for maintaining the separation thereof, and with the spacers 22 being longitudinally aligned with the central bores and thus with the central axis. The spacers 22 are not fixedly attached to the elements, but are supported in the described position by the structure set forth below, and so as to permit relative motion of the elements 14 in all axes.

(see Col. 3, lines 15-22). Marras therefore does not anticipate claim 1.

With respect to claim 17, Applicant has herein amended claim 17 to recite that the claimed invention include an elongated member having a first end and a second end opposite the first end and further that the claimed invention include first and second sensors mounted near the first and second ends respectively of the elongated member.

Marras, on the other hand, teaches a device wherein the first and second sensors 50 and 52 are both mounted to an elongated member 12 near the same end. Marras therefore does not anticipate the claimed invention of amended claim 17.

**Rejection of Independent Claim 17 under 35 U.S.C. § 102(b) by Curchod.**

As previously mentioned, Applicant has herein amended claim 17 to recite that the claimed invention include an elongated member having a first end and a second end opposite the first end and further having first and second sensors mounted near the first and second ends respectively of the elongated member. In addition, claim 17 has been amended herein to recite that the first sensor is disposed to monitor flexion and extension motion of the patient's lumbar spine in the midsagittal plane and the second sensor is disposed to measure lateral motion of the patient's lumbar spine in the frontal plane.

Curchod teaches two devices for monitoring the motion of a patient's spine (see Figs. 10A and 11A). The first device is shown in Fig. 10A and includes an elongated member 120, a first sensor 116 for measuring flexion and extension motion of a patient's lumbar spine in the

midsagittal plane, and a second sensor 118 for monitoring lateral motion of a patient's lumbar spine in the frontal plane. Both of those sensors, however, are disposed near the same end of the elongated member 120, not near opposite ends of elongated member 120 as recited in amended claim 17.

The second spine monitoring device taught by Curchod (see Fig. 11A) also includes an elongated member 210 and two sensors 202 and 218. Like sensors 116 and 118 of the device of Fig. 10A, sensors 202 and 218 are both disposed near one end of the elongated member 210, not near opposite ends of the elongated member as recited in amended claim 17.

Neither of the two spine monitoring devices taught by Curchod include a first sensor disposed near one end of an elongated member to monitor flexion and extension motion of the lumbar spine of a patient in the midsagittal plane and a second sensor disposed near the opposite end of the elongated member to monitor lateral motion of the patient's lumbar spine. Curchod therefore also does not anticipate claim 17 as now amended.

It should be noted that Curchod also does not teach or suggest the use of an optical sensor in the spine monitoring devices of Figs. 10A and 11A. Curchod only teaches the use of an optical sensor in a device for monitoring the movement of a golfer's knee joint as shown in Fig. 3 (see col. 3, line 66 through col. 4, line 16). Curchod therefore also does not anticipate amended claim 17 for this reason as well.

**Rejection of Dependent Claim 6 under 35 U.S.C. § 103(a) as being unpatentable over Marras in view of Curchod.**

Claim 6 as amended herein specifically recites that the claimed invention include "a computer in electrical communication with the second sensor, wherein the computer includes a display having a cursor, wherein the second sensor controls movement of the cursor, and further wherein the computer interprets the position of the cursor to graphically show lateral movement of the patient's spine on the display."

Marras does not teach a computer in electrical communication with a sensor. Curchod does teach a computer in electrical communication with a sensor, wherein the computer includes a display having a cursor, and further wherein the sensor controls movement of the cursor. Curchod does not, however, teach or suggest a computer that interprets the position of the cursor to graphically show lateral movement of the patient's spine on the display. Since neither Marras nor Curchod teach or suggest such a limitation, it would not have been obvious to combine the teachings of Marras with the teachings of Curchod to arrive at the claimed invention of claim 6.

**Rejection of Dependent Claims 2, 4, 7-12, 14 and 19 under 35 U.S.C. § 102(b).**

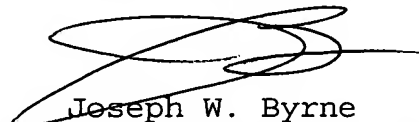
Claims 2, 4, 7-12, 14, 16 and 19, which all depend from an allowable base claim, each add one or more limitations to the base claim from which they each depend. Each of claims 2, 4, 7-12, 14, 16 and 19 are therefore narrower in scope than the allowable base claim from which

they depend and are also allowable. Furthermore, notwithstanding that each of claims 2, 4, 7-12, 14, 16 and 19 are allowable as depending from an allowable base claim, each of these claims is also allowable because each of these claims contain one or more limitations which patently distinguishes it over the prior art.

**CONCLUSION**

Accordingly, in view of the above amendments and remarks, Applicant respectfully submits that the application should be allowed. The Examiner is invited to telephone the undersigned below if it will aid in the prosecution of this application.

Respectfully submitted,

  
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